Duffy, Patricia

From: Duffy, Patricia
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Patricia A. Duffy
Art Unit 1645
Office CM-1, 8D05
Mailbox CM-1, 8E12
Phone 703-305-7555

00395804 EMBASE No: 1975168197

The tryptophan hydroxylase of Chromobacterium violaceum

Letendre C.H.; Dickens G.; Guroff G.

Sect. Intermediary Metab., Lab. Biomed. Sci., Nat. Inst. Child Hlth Hum. Developm., NIH, Bethesda, Md. 20014 United States

Journal of Biological Chemistry (J. BIOL. CHEM.) 1974, 249/22 (7186-7191)

CODEN: JBCHA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

04191725 81142116 PMID: 7204339

Involvement of plasmid deoxyribonucleic acid in indoleacetic acid synthesis in Pseudomonas savastanoi.

Comai L; Kosuge T

Journal of bacteriology (UNITED STATES) Aug 1980, 143 (2) p950-7, ISSN 0021-9193 Journal Code: HH3

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Olive (or oleander) knot is a plant disease incited by Pseudomonas savastanoi. Disease symptoms consist of tumorous outgrowths induced in the plant by %%%bacterial%%% production of indole-3-acetic acid (IAA). Synthesis of IAA occurs by the following reactions: L-tryptophan leads to indoleacetamide leads to indoleacetic acid, catalyzed by tryptophan 2-monooxygenase and indoleacetamide hydrolase, respectively. Whereas the enzymology of IAA synthesis is well characterized, nothing is known about the genetics of the system. We devised a positive selection for the presence of tryptophan 2-monooxygenase based on its capacity to use as a substrate the toxic tryptophan analogue 5-methyltryptophan. Efficient curing of the %%%bacterium%%% of tryptophan 2-monoxygenase, indoleacetamide hydrolase, and IAA production was obtained by acridine orange treatment. Further, loss of capacity to produce IAA by curing was correlated with loss of a plasmid of 34 X 10(6) molecular weight. This plasmid, here called

pIAA1, when reintroduced into Iaa- mutants by transformation, restored tryptophan 2-monooxygenase and indoleacetamide hydrolase activities and production of IAA.

10712399 BIOSIS NO.: 199799333544
Tryptophan hydroxylase: Purification by affinity chromatography on calmodulin-Sepharose.
AUTHOR: D'Sa Carrol; Arthur Robert; Jennings Ian; Cotton Richard G H; Kuhn Donald M(a)
AUTHOR ADDRESS: (a)MCHT, Room 4321, 2727 Second Avenue, Detroit, MI 48201**
USA
JOURNAL: Journal of Neuroscience Methods 69 (2):p149-153 1996
ISSN: 0165-0270
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Tryptophan hydroxylase (EC 1.14.16.4; L-tryptophan, tetrahydropteridine:oxygen oxidoreductase (5-hydroxylating)) from rat mesencephalic tegmentum has been purified by sequential chromatography on Blue-Sepharose, DE-52, and calmodulin-Sepharose. The hydroxylase is excluded from Blue-Sepharose and is eluted from DE-52 with a step-wise NaCl gradient. Tryptophan hydroxylase binds to calmodulin-Sepharose in the presence of calcium and is eluted with either EGTA or calmodulin itself, but not with tryptophan. The purification scheme is rapid (5-6 h) and yields an enzyme with a specific activity of 225 nmol 5-HTP/mg min, representing a 400-fold purification with 7% recovery. The tryptophan hydroxylase preparation was judged to be gt 95% pure using the present isolation procedure.

10445305 BIOSIS NO.: 199699066450
Structure and function of the aromatic amino acid hydroxylases (Originally published in Biochem. J. (1995) 311, 353-366).
BOOK TITLE: Biochemical Journal reviews, 1995
AUTHOR: Hufton Simon E; Jennings Ian G; Cotton Richard G H(a)
BOOK AUTHOR/EDITOR: Pegg A E: Ed
AUTHOR ADDRESS: (a)Olive Miller Protein Chem. Lab., Murdoch Inst., Royal Child. Hosp., Parkville, Victoria 3052**Australia
p231-244 1995
BOOK PUBLISHER: Portland Press Ltd., Commerce Way, London CO2 8HP, England
Portland Press Ltd., Old Post Road, Brookfield, Vermont 05036-9704, USA
ISBN: 1-85578-107-7

09502381 BIOSIS NO.: 199497510751
Purification and properties of skipjack liver tryptophan hydroxylase.
AUTHOR: Nagai Takeshi; Serrano Augusto E Jr(a); Nagayama Fumio
AUTHOR ADDRESS: (a)Dep. Food Sci. Technol., Shimonoseki Univ. Fisheries, Nagata-honmachi, Shimonoseki, Yamaguchi 75**Japan
JOURNAL: Fisheries Science (Tokyo) 60 (4):p445-448 1994
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Tryptophan hydroxylase (5-monooxygenase) (EC 1. 14.16.4; Trp hydroxylase) in skipjack liver was extracted with Tris-acetate buffer solution and purified by acid treatment, ammonium sulfate fractionation, Sephadex G-150, DEAE-Sepharose CL-6B, Butyl-Sepharose 4B, and Toyopearl HW-55F chromatography. The enzyme was purified 1,500-fold with a 6.2% yield from skipjack liver. The apparent molecular weight was estimated to be 288,000 by gel filtration on Sephadex G-150. The enzyme gave a single protein band on sodium dodecyl sulfate-polyacrylamide gel electrophoresis

which also revealed that the enzyme was composed of identical subunits with a molecular weight of 97,000. The optimum temperature was 35 degree C and the enzyme was stable under 35 degree C. The optimum pH was 8.0 and the enzyme retained more than 80% of its original activity between pH 1.5 and 8.5 after incubation at 35 degree C for 30 min. The enzyme was inhibited by Co-2+, Mn-2+, and Zn-2+ ions. However, it can be activated by adding Fe-3+, K+, and Li+ ions.

02446665 EMBASE No: 1983099676

A sensitive radiometric assay for tryptophan hydroxylase applicable to crude extracts

Beevers S.J.; Knowles R.G.; Pogson C.I.

Dep. Biochem., Univ. Manchester, Manchester M13 9PL United Kingdom

Journal of Neurochemistry (J. NEUROCHEM.) (United Kingdom) 1983, 40/3 (894-897)

CODEN: JONRA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

We describe here a simple and convenient method for assay of tryptophan 5-monooxygenase (hydroxylase), applicable to enzyme in all states of purification. It is based on the enzyme-catalysed formation of 5-hydroxy-(4-sup 3H)tryptophan from (5-sup 3H)tryptophan, and the subsequent acid-dependent quantitative release of sup 3H as sup 3Hinf 2O; unreacted substrate is removed with activated charcoal. The assay is linear with respect to both protein concentration and time, and gives results similar to those in a standard fluorimetric assay.

00476600 EMBASE No: 1976032139

A sensitive microassay for tryptophan hydroxylase in brain

Kizer J.S.; Zivin J.A.; Saavedra J.M.; Brownstein M.J.

Lab. Clin. Sci., Nat. Inst. Ment. Hlth, Bethesda, Md. 20014 United States

Journal of Neurochemistry (J. NEUROCHEM.) 1975, 24/4 (779-785)

CODEN: JONRA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

A specific and sensitive, radioisotopic microassay for tryptophan hydroxylase (EC 1.14.3b) is described, which is capable of determining enzymatic activity in as little as 5 mug of crude brainstem homogenate. 5 Hydroxytryptophan, the immediate product of hydroxylation of tryptophan is enzymatically converted to N acetylserotonin. A radioisotopic label is then introduced by the enzymatic methylation of N acetylserotonin in the presence of (sup 3H)methyl S adenosyl methionine. The (sup 3H)melatonin thus formed is isolated by extraction and counted. With this assay, the activity in individual hypothalamic nuclei (arcuate nucleus, median eminence, suprachiasmatic nucleus, and medial forebrain bundle) has been measured.

09822843 98344760 PMID: 9681435

Tyrosine hydroxylase in the european eel (Anguilla anguilla): cDNA cloning, brain distribution, and phylogenetic analysis.

Boularand S; Biguet NF; Vidal B; Veron M; Mallet J; Vincent JD; Dufour S; Vernier P

Laboratoire de Genetique des Processus Neurodegeneratifs, CERVI, Hopital Pitie-Salpetriere, Gif-sur-Yvette, France.

Journal of neurochemistry (UNITED STATES) Aug 1998, 71 (2) p460-70, ISSN 0022-3042 Journal Code: JAV

04451254 82261680 PMID: 6809461

Tryptophan 5-monooxygenase from mouse mastocytoma P815. A simple purification and general properties.

Nakata H; Fujisawa H

European journal of biochemistry (GERMANY, WEST) Jun 1982, 124 (3) p595-601, ISSN 0014-2956 Journal Code: EMZ

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Tryptophan 5-monooxygenase was purified 880-fold with a 48% yield from mouse mastocytoma cells (P815) by only a one-step purification procedure of pteridine affinity chromatography. The specific activity of the final

04244146 82052944 PMID: 7298604

Simple and rapid purification of tryptophan 5-monooxygenase from rabbit brain by affinity chromatography.

Nakata H; Fujisawa H

Journal of biochemistry (JAPAN) Aug 1981, 90 (2) p567-9, ISSN 0021-924X Journal Code: HIF

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

A simple and rapid method for isolating tryptophan 5-monooxygenase [L-tryptophan, tetrahydropteridine:oxygen oxidoreductase (5-hydroxylating), EC 1.14.16.4] was reported. The method involves adsorption on calcium phosphate gel and affinity chromatography on agarose coupled with dimethyltetrahydropteridine. Tryptophan 5-monooxygenase was purified 1,100-fold from a rabbit brain extract to a specific activity of 15.9

02023667 73146513 PMID: 4266460
Tryptophan hydroxylase in nucleated thrombocytes of the domestic fowl.
Sorimachi M; Kataoka K; Hori S; Fujisawa H
European journal of biochemistry (GERMANY, WEST) Mar 15 1973, 33 (3) p486-93, ISSN 0014-2956 Journal Code: EMZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Record Date Created: 19730523

01880016 74284477 PMID: 4845687

Purification of pig brainstem tryptophan hydroxylase and some of its properties.

Youdim MB; Hamon M; Bourgoin S

Advances in biochemical psychopharmacology (UNITED STATES) 1974, 11 (0) p13-7, ISSN 0065-2229 Journal Code: 2I8

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Record Date Created: 19741007

01880011 74284476 PMID: 4845686
Tryptophan-5-hydroxylase: function and control.
Gal EM
Advances in biochemical psychopharmacology (UNITED STATES) 1974, 11 (0) p1-11, ISSN 0065-2229 Journal Code: 2I8
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Record Date Created: 19741007